Delaware Department of Transportation QUESTIONS AND ANSWERS CRASH DATA AND ANALYSIS APPLICATION Agreement 1918

Q #	Question	Answer
-11	11/	5/2020
86	"Additionally, DelDOT envisions the application to allow for a public-facing platform to reduce the volume of crash data requests received from the public and other stakeholders." Please explain this requirement in detail. Understanding a public-facing platform is required but what is the purpose of it?	Should a public-facing platform be developed, the public will have access to certain aspects of the application and specific elements of the crash data. The public would be able to perform their own crash data queries along roads, intersections, etc.
85	In the case of a public-facing platform, will the users require the ability to raise any request, if so what kind of requests? or is the public-facing platform for information purposes only.	Unknown at this time.
84	How many internal users will access the application? a) Number of admins? b) Number of internal staff?	The internal application must allow for at least 20 simultaneous users. a) 2-5 b) 20+
83	Will internal users be required to authenticate themselves before logging into the system? Is the state maintaining any internal user authentication mechanism which will be leveraged to authenticate users? (Ex. existing Active Directory)	Internal users should not be required to separately log in to this application. Presently, the State has started employing Okta as an enterprise-wide SSO; this is desired moving forward for internal user authentication to State applications.
82	How many external users will require access to the public-facing portal?	The public-facing platform must allow for an unlimited number of simultaneous users.
81	Will the external users be required to create their accounts with usernames and passwords on the public-facing portal?	Unknown at this time.
80	Integration with DelJIS id required?	Yes.
79	What is the size of data in the State's Safety Data Management (SDM) database that needs to be migrated to the new system?	The total size of current CARS application data (of all of the schemas) is approximately 100Gb.
78	Does the state require any data visualization tools like Tableau or PowerBI?	No.
77	How many devices does the client want testing needs to be performed?	The number of devices needed for testing is driven by the successful bidder's proposed system. Any assumptions made by the bidder driving the cost of testing are required to be clearly stated in bidder proposals.

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76	How many browsers does the client want the testing to be performed on?	The application will need to be able to meet requirements on the following browser versions at a minimum, in particular to accomodate public access. Bidders should state in ther proposals how they plan to address browser compatibility for these and newer versions: - Google Chrome 35 and higher - Microsoft Edge 21.10547 (EdgeHTML 13) and higher - Safari 7.0 and higher - Firefox 35 and higher - Internet Explorer 9.0 and higher
75	Is mobile functionality required?	No.
74	What format are the original crash reports referenced in section 2.2 Crash Reporting when it states "Present each individual crash report in a printable format consistent with that used by the Delaware Department of Safety and Homeland Security. Each report shall have the capability to mask personally identifiable information (PII) and any other fields at DelDOT's request, including any narrative accounts of the crash event." Are the crash reports referenced above in a digital text format, or are they	A copy of the ECRASH Sample Report has been added to the project's supporting documents. The PII data is masked from within the application, prior to generating the report.
	scanned copies of handwritten reports?	
73	Will the proposed solution be required to host data containing PII, or will it only be hosting data with redacted (masked) PII?	The current appplication database contains PII, thus the requirement to be able to mask PII prior to report generation.
72	Can DelDOT confirm they want a COTS (Commercial off the shelf) app that can be extended through customization?	Correct. DelDOT prefers that the solution reflect a "configured" application as opposed to a "customized" application.
71	Is there a common Authentication protocol for data sharing across the various agencies referenced in the RFP?	Please propose a common protocol meeting security requirements per State standards.
70	Who developed DelDOT's current Crash Analysis and Reporting System (CARS)? Is there an incumbent?	See Answer to Question #6.
69		Data from the crash reports are available via a web service, a nightly batch job pulls data into the crash data database. Please also see reponse to question #74.
68		DelDOT has an ArcGIS Online Organization and has access to the State's FirstMap Portal for ArcGIS, currently version 10.7.1, upgrading soon to 10.8.1.
67	please clarify what is meant by this from a technical perspective?	For example, crash data fields used by DelJIS are in compliance with NHTSA's Model Minimum Uniform Crash Criteria (MMUCC). MMUCC field names, code numbers and corresponding values, and definitions are subject to change, and the solution will need to be able to quickly adapt to those changes.

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	Is DelDOT currently using a cloud services provider for data storage, analysis, etc? If so, can you provide which service(s) you are using? AWS, Azure, GCP?	Please assume that DelDOT is not using a cloud services provider for data storage.
65	Section 2.1 states "The application must have the ability to display a platform intended for use by the general public, showing rudimentary information regarding historical crashes". Is the historical data static or dynamically built based on Users query/search requirements?	Dynamically built.
64	Section 2.2 states "the application must display crashes as points on a map at coordinates attributed to each crash event". Are crashes currently stored as points in CARS or geocoded on-the-fly?	See answer to Question #26.
63	Section 2.2 states "the application must present each individual crash report in printable format consistent with that used by Delaware DSHS" Can you provide an example of the DSHS report referenced in Section 2.2 so that we can better understand the required format?	See question #32.
62	Does DelDOT have a geoprocessing server or a dedicated server to handle geoprocessing services such as printing, custom geoprocessing functions, etc.?	Yes.
61	Is there a standardized convention for report IDs?	Yes. Complaint numbers are formatted as "T########"
60	State's Safety Data Management (SDM) database (prior to the implementation of ECRASH)". a) Is this a one-time data transfer?	 a) This is a one-time data transfer. b) n/a c) Yes. d) Tables in Oracle e) Yes, field names, definitions, and codes need to be updated to current standards.
59	Section 2.2 states the application must have the ability to consume geospatial data through the use of web mapping and geoprocessing services." Are these geoprocessing services that we may develop or are there existing DelDOT geoprocessing services we must accommodate?	Bidders should assume that any services needed will be developed by the bidder.
58	Section 2.3 states the application must "have the ability to return the recommended safety countermeasures based on crash patterns as well as the presence or absence of a treatment". Are these safety countermeasures specified by DelDOT?	Yes.

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57	Section 2.3 states, "The application shall have the ability to incorporate dynamic layers on the base map from numerous sources of data where applicable". Can you explain what is meant by "Dynamic" layers? Do you mean real-time?	Yes. Locations of crash hot-spots, traffic signals, guardrail, Maintenance Districts, Legislative Districts, Police Jurisdictions, etc. Need to be able to update immediately when these databases change.
56	Section 2.3 states, "The application must have new data fields from the raw crash data using pre-defined algorithms to cross-reference the three levels of data in a crash to identify Emphasis Areas or crash types". Do the new fields need to go back to ECRASH or CARS?	No. We only consume data from E-CRASH, we do not produce or supply E-CRASH with anything. CARS will be retired upon the acceptance of the new solution.
55	The link to the Systems Architecture Standard via the DTI Standards and Policy site is broken. Can DelDOT provide the PDF to the standard?	This issue is related to the Chrome browser. We recommend you use Internet Explorer, Microsoft Edge, or Firefox. The link to the page containing all of the State Standards is: https://dti.delaware.gov/technology-services/standards-and-policies/
54		If DelDOT opts for working demonstrations, participating firm's will be contacted after the bid due date and prior to award. Notifications will be sent to participating firms throughout the process.
53	It is our understanding that DelDOT prefers a Software as a Service (SaaS) solution. Therefore, internal/external hosting pricing is not a factor. Question - Does DelDOT agree with this approach? If this is not optimal please explain what a plausible approach would be?	DelDOT does not necessarily prefer a SaaS solution. All proposals will be evaluated per the RFP.
52	Technology must adhere to defined State Enterprise Standards and Policies which can be found online https://dti.delaware.gov/information/standards-policies.shtml. Question – We have selected the provided link and it takes us to the Delaware Department of Technology & Information page. When selecting the System Architecture document to download it we receive an error that the state.extranet.dti.state.de.us's server IP address could not be found. This document is critical to review in order that we can validate our proposed architecture for the Crash Data and Analysis Application.	See answer to Question #55

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51	The requirement states the system must have the ability to populate new data fields from the raw crash data using pre-defined algorithms to cross-reference the three levels of data in a crash (i.e., crash, person, vehicle) to identify Emphasis Areas or crash types to support Delaware's SHSP and/or other initiatives, plans, or goals identified by DelDOT. Question – Are the new data fields populated from raw crash data expected to be part of the safety system's data model and these fields will be populated during the nightly import of new or modified crashes? If not, how/when are these new data fields expected to be populated?	They will be populated on demand from the user. Not imported nightly.
50	The requirement states the system must perform network screening tasks, with the ability to quickly scan the entirety of the state-maintained roadway system to select and visualize high crash locations based on predetermined criteria (e.g., Critical Ratio methodologies, high crash frequency intersections, etc.) as well as produce ranking and prioritization lists, both in graphical and tabular formats. This includes incorporating several methodologies consistent with Delaware's Highway Safety Improvement Program as well as other algorithms as needed. Question – Can DelDOT describe the methodologies currently used to screen the network? If using SPF's, how many and what types has DelDOT implemented?	The current methodology has been added to the project's supporting documents. We do not use SPF's at this time.
49	The requirement exists to return recommended safety countermeasures based on crash patterns as well as the presence or absence of a treatment. The individual countermeasures and methodologies/calculations to determine their usage must be customizable (Crash Modification Factors, etc.). Question – What are the types of calculations (SPF's, CMF's, CRF's, etc.) DelDOT currently uses to both predict crashes and determine the effect of potential countermeasures for at-risk locations that have been identified?	The Highway Safety Manual and its methods are currently not widely used at DelDOT to determine countermeasures hence the need for a more robust solution which may look into those processes. Currently, network screening for certain criteria found in reports as well as patterns and trends in crash data largely determine countermeasures.
48	The requirement exists to present each individual crash report in a printable format consistent with that used by the Delaware Department of Safety and Homeland Security. Question - What is the format of the report used by the Delaware Department of Safety and Homeland Security?	.pdf documents.
47	Will the selected solution be required to use FirstMap as the base map to display query and analysis results?	Yes.
46	The requirement exists to interface the States enterprise GIS System FirstMap. Question – What is the format of the FirstMap webservice?	FirstMap is a full ArcGIS Enterprise deployment, including Portal for ArcGIS, version 10.7.1, and will be upgraded soon to 10.8.1. Data are available via REST services.

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45	Can different pricing models be proposed for different parts of the proposal? For example for those components where the specifications or supporting documents (such as sample data, data models, etc.) are not provided, can time and material be bid, while for the COTS portion of the system be bid on fixed price?	Yes, you may submit alternate pricing models, however, you must comply with the requested pricing model in the RFP.
44	System Implementation Progress Payments – is it acceptable to propose progress payment for the system implementation cost item while placing the summary amount in the cost form?	Yes, as long as you include the total costs for system implementation as defined in Section 3.4.12.
43	Could you please clarify how the precedence of documents would apply to the following case? a. What if the RFP specifies functions x, y, and z and vendor clearly proposes only x and y. Wouldn't the proposal response take precedence regarding that function z would not be delivered?	No. Section 20. PRECEDENCE OF DOCUMENTS' protects the Department in the event the absence of 'function z' is not recognized. During negotiations with the selected Vendor, the precedence of documents will be revised for the agreement.
42	What is the scope of the roadway network to be managed by the offered system? a) Does DelDOT receive, process, and provide access to data from crashes on all public roads, only state-owned roads, or other? b) Does TSDM maintain the LRS for the all public roads, only state-owned roads, or other?	TSDM contains the functions to manage the roadway network. Managing the roadway network for this system is not required nor desired. a) Any crash reports generated by all police agencies in the state of Delaware are available to DelDOT. b) TSDM contains the LRS for all public Delaware roads, with the exception of some roads that are maintained by municipalities.
41	Does DelDOT edit / correct crash data once received from ECRASH? a) For example, does DelDOT geolocate crashes that are not properly located as received? b) Are any other edits / corrections made by DelDOT?	See Question #27
40	It is assumed that updated / amended crash reports may be received from law enforcement. a) Are such updated / amended reports always complete reports (i.e. not just showing changes)? b) Are such updated / amended reports received by CARS? c) Are such updated / amended reports clearly indicated in the electronic data? d) Does the offered system need to manage all versions of a crash report, or just the latest one?	a. No. They are partial reports. b. Yes. c. No. d. The latest one.

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39	It would be helpful to better understand some summary technical information about CARS. a) How is the offered system expected to "utilize DelDOT's current Crash Analysis and Reporting System (CARS) to integrate the extensive amount of data collected by multiple agencies statewide" before taking over? b) The interface to ECRASH is discussed, but what is the interface to CARS? c) Is a CARS interface in place, and we just need connect to it? d) Is there any data other than crash data to be obtained from CARS? If so, what? e) Is CARS a database that can be queried? what type of interface is expected?	a) The intention of this statement is to ensure the bidders consider the data that resides in the current CARS system. Bidders should provide information in their proposal on how a "cutover" from the old CARS system to the new CARS system would work given the system they are proposing. b) No existing interface is presently available for a bidder's system to connect to CARS, particularly since the bidder's system is not known, defined, nor available to DelDOT at this time. c) No. d) No. CARS only holds crash data. Any other transportation data are available through FirstMap or TSDM. e) Yes. Any database interface is up to the bidder; please note that the bidder's system design is subject to State standards.
38	Our system has many optional modules that are not required to meet the requirements as spelled out in the RFP. Is DelDOT interested in a system with "all the bells & whistles", or one that just satisfies base requirements. In the proposal, may we present optional modules / capabilities that are needed to meet the requirement? If so, how should the optional prices be presented?	Alternative pricing should be presented in the bid table under the "additional responses" tab. Clarify if the alternative is needed to meet a particular RFP requirement.
37	Highway Safety Manual Predictive Methodology – HSM processing provides a specified manner for computing future crash counts (predicted/expected crashes) which provides a great advantage in crash analysis. There doesn't appear to be any HSM processing requirements within the RFP. Does DelDOT want the system to fully support HSM processing of the crash data statewide?	DelDOT requires a system that meets the RFP. DelDOT is also interested in additional germane functions provided by a solution that exceeds the minimum requirements and would appreciate the opportunity to consider these.
36	Crash location methods – do all crashes have validated locations?	Yes.
35	Crash Location information available on each crash – what specific crash location data elements will be provided/utilized. Are Latitude/Longitude provided for every crash?	Yes, latitiude and longitude are provided for every crash.
34	Could DelDOT provide an indication of the consistency, completeness, and uniformity of existing crash data? For example, what universally applied validation rules are applied, are some fields mandatory, or is data entered into ECRASH from paper crash reports.	Data requirements is not under DelDOT's purview. All reports from 2005 -present are from an electronic source.
33	Regarding the requirement to "Present each individual crash report in a printable format consistent with that used" Is the crash report format fixed in nature, or does it adapt to the selections made in the various fields?	The base format is consistent where values are input for every crash, however the report will expand when vehicles are added, drivers added, additional individuals involved, etc.

Q #	Question	Answer
32	Could DelDOT please provide a blank copy of the crash report that is expected that the offered system be capable of outputting?	A copy of the ECRASH Sample Rerport has been added to the project's supporting documents.
31	would be available through the system." Does interface mean User Interfaces, such as Views or Dashboards, or does interface mean Integration?	Views, dashboards, or modules, as well as data integration points.
	The RFP asks for "Interfaces to internal and external entities." Does interface mean User Interfaces, such as Views or Dashboards, or does interface mean Integration?	See question #31.
29	a) Is requirement Section 3.4.6 applicable to a cloud-based COTS?b) Also, typical traffic crash analysis would not need privacy data, does DelDOT expect a proposed solution to handle any privacy data?	a) Yes.b) Yes. Please refer to the response to question #74.
28	Has DelDOT prepared safety performance functions for Delaware? If so for which roadway facility types?	No.
27	Is DelDOT looking for a system that has the capability to update the spatial location of a crash, or is the spatial location of the crash unavailable for editing? If a crash location can be edited, does the updated spatial location need to be written back to ECRASH?	No. The spatial location is determined by DelJIS and is not a component that should be editable within DelDOT's system. Currently, any spatial errors found are relayed to DelJIS and are corrected and reuploaded the following day.
26	Is DelDOT looking for an application that geolocates crashes from the ECRASH system or are all crashes submitted with coordinate values?	Coordinate values on crash reports are automatically generated when the officer begins their report at the scene.
25	Does this existing CARS application write information back to the ECRASH system or is it simply a pull process from ECRASH into CARS?	It is simply a pull process from E-CRASH into CARS.
	10/2	23/2020
24	source code? For example, for solutions providing custom software developed to enhance existing commercial off the shelf software, is the requirement that the entire code base (COTS + custom work) be included in the escrowed source code or only the custom work?	The intention of source code escrow is to provide DelDOT with an improved posture for Business Continuity. If proposed COTS software is necessary to replicate the function of the proposed application, assumed to be needed to meet the DelDOT requirements, we would expect that code to be included in the scope of the escrow.
23	Will DelDOT waive the requirement that the Certificate of Eligibility and Certificate on Non-Collusion be notarized given the need to social distance for the COVID pandemic?	Your notary may be able to witness signatures remotely. If not, for the time being and so long as "social distancing" and telework are a thing, we can accept documents that are not sealed or witnessed. Each signer must certify the document by attaching a letter that says "I swear that the signature included on the following documents (list each document) is my true and correct signature", or a similar certification.

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22	From page 3 of the RFP - can DelDOT clarify what they mean by the word "consume" in the following requirement, "Have the ability to consume web mapping and geoprocessing services from TSDM and FirstMap for display and analysis?"	"Consume" essentially means the system needs to be able to recognize and display data provided by those applications. The data these programs output are an integral part of Delaware's safety program processes.
21	From page 3 of the RFP - can DelDOT clarify what they mean by "ability to populate new data fields" in the following requirement, "Have the ability to populate new data fields from the raw crash data using predefined algorithms to cross-reference the three levels of data in a crash (i.e., crash, person, vehicle) to identify Emphasis Areas or crash types to support Delaware's SHSP and/or other initiatives, plans, or goals identified by DelDOT?"	See Answer to Question #2.
	10/2	12/2020
20	Does DelDOT require the vendor to provide any licenses? E.g. Oracle Spatial	Please provide a turnkey solution in your proposal. We cannot guarantee that agreements or licenses currently held by the State will be available at the time of system implementation activities.
19	Which pre-defined algorithms are used to cross-reference the three levels of data in a crash?	If/then, and/or statements using data elements within each level.
18	Which methodologies/calculations are used to return recommended safety countermeasures?	No such algorithms exist in the current environment.
17	What data exchange protocol is used to load data from TSDM?	We prefer the use of web services in obtaining data from TSDM or First Map. If you have an alternative State standards-compliant approach to accessing data please specify this as part of your solution.
16	Does DelDOT use any OAuth server and Identity provider?	Yes.
15	Do you prefer any and all solutions delivered through this project to be hosted (outside of DelDOT's IT infrastructure)? Or is it preferred for the solution(s) to be deployed to DelDOT's IT infrastructure?	We are open to hosting this solution either externally or internally. Your proposal will need to consider both security and support factors, amongst others, as part of your solution. Please consider the State's standards (https://dti.delaware.gov/technology-services/standards-and-policies/) when describing your solution and any alternatives as part of your proposal.
14	Are you comfortable using offshore resources for any application development tasks?	No. Refer to https://dti.delaware.gov/technology-services/standards-and-policies/

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13	Are you not looking to replace and/or enhance the current CARS application? But rather, are you looking to develop a public facing solution only? If so:	The requested solution will replace the CARS application and expand upon DelDOT's current data analysis and reporting capabilities.
	a) Are you looking for a custom application?	a) DelDOT is looking for a customizable off the shelf (COTS) solution.
	b) Are you looking for a COTS solution that can be extended to meet your needs?	b) Yes.
	c) Are you specifically looking to use Esri off the shelf web-based solutions for this project?	c) We are not specifying or endorsing the use of any geospatial product line or provider. We can state that the internal DelDOT geospatial LRS, asset, and feature data is accessed through an ESRI-based system, however we do have other applications utilizing Google Maps accessing the data housed (considered the gold source) in the existing geodatabase. Please propose the best fit and/or options based upon your approach to the solution.
	Are you looking to maintain and enhance the CARS application only? Or: a) Are you looking to replace the current CARS application with a new	The goal of this project is to expand upon DelDOT's current data analysis and reporting capabilities. a) Yes. The application will utilize DelDOT's current Crash Analysis and
	custom-built application?	Reporting System (CARS) to integrate data collected by other state agencies, but will then serve as the Department's standalone Crash Data Analysis Program when the Department is satisfied with the requested solution's performance.
	solution that can be extended to meet your needs?	b) Yes. The requested solution will replace the CARS application once the Department is satisfied with the requested solution's performance.
12	c) Do you want to leverage existing crash analysis algorithms or are you interested in enhancing or replacing them?	c) All of the above are feasible. This is a discussion topic once a solution is selected.
	d) Are you specifically looking to use Esri off the shelf web-based solutions for this project?	d) We are not specifying or endorsing the use of any geospatial product line or provider. We can state that the internal DelDOT geospatial LRS, asset, and feature data is accessed through an ESRI-based system, however we do have other applications utilizing Google Maps accessing the data housed (considered the gold source) in the existing geodatabase. Please propose the best fit and/or options
11	Do you have preliminary requirements that define the solution you are expecting to be delivered from this project? If so, can they be shared?	Please refer to the RFP for project requirements.
10	Can you share the system architecture and system requirements and design specifications for the CARS application?	We cannot provide you with the current design due to security considerations, and in fact desire that your proposal not be influenced by the existing system characteristics. System requirements and design specifications are bounded by State standards, please refer to https://dti.delaware.gov/technology-services/standards-and-policies/.

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9	What is the cost range you are expecting for this project?	This is a question we are asking potential vendors to address.
8	Do you have a due date in mind for this project? If so, what is that date?	Please refer to the RFP document, Appendix A, for Deliverables. The project schedule will be discussed with the selected firm during the project kickoff
7	Is there a vendor assisting with the initial project planning for this effort? If so, who?	No, the RFP was developed based on information received from the RFI.
6	Is there an incumbent? If so, who?	GeoDecisions is the current incumbent.
5	The Bonfire portal and the State of Delaware Bid Solicitation Directory Website both indicate the due date is November 12. The RFP lists October 22 as the due date. Was there an amendment to extend the date?	There was an error in the RFP originally uploaded to Bonfire. The due date of October 22, 2020 was incorrect. The Bonfire portal and the State of Delaware Bid Solicitation Directory website listed the correct due date for submissions, November 12, 2020. A copy of the most current RFP document has been uploaded to Bonfire and the previous version has been removed.
4	Will DelDOT extend the due date for proposal submissions if answers to questions are responded to according to the RFP schedule on 11/05/2020 (five business days prior to the 11/12/2020 proposal due date)? Or will DelDOT answer questions and post them on their website a few days after they are received?	Answers to questions will be posted on or before the date provided in the Procurement Schedule. Any change to the procurement schedule will be issued through a formal addendum. Addendums will be publically posted here: www.bids.delaware.gov
3	Sec 7, bullet 1 states, "bidders may be asked to provide a working demonstration of their proposed application." Is DelDOT only seeking proposals including pre-developed crash data analytical software, or is DelDOT amicable to proposals to develop the application as part of this contract?	DelDOT is seeking a customizable off the shelf (COTS) application. DelDOT is not interested in developing a new application from the ground up for this Agreement.
2	Sec 2.3, bullet 6 states, "Have the ability to populate new data fields from the raw crash data using pre-defined algorithms to cross-reference the three levels of data in a crash (i.e., crash, person, vehicle) to identify Emphasis Areas or crash types to support Delaware's SHSP and/or other initiatives, plans, or goals identified by DelDOT." Can DelDOT please expand on the intended workflow to provide details of what data is being entered, where, and how that is being used?	There are times where multiple data fields need to be combined in order to obtain additional, more specific fields so the Department can more easily access results pertaining to a certain type of crash. For instance, an "Aggressive Driving" crash may have several contributing circumstances listed, e.g. speeding, reckless driving, or red light running, but the report itself does not specifically call out or classify that crash as "Aggressive Driving". Rather than the user doing separate searches using each possible contributing circumstance, a new "Aggressive Driving Yes/No" field should be able to be created. Note: Aggressive Driving is just an example and this particular instance is not necessarily what the Department is looking for.
1	Is DelDOT able to provide data samples, redacted of PII, or data models of the current CARS, ECRASH, or TSDM databases?	Not at this time.